

Making **high-quality, high-power** solar cells and
modules using **U.S.-based technology** at
affordable costs to address the world's energy needs



COMPANY OVERVIEW

2012



WHO WE ARE

Manufacturer of high-efficiency crystalline silicon PV cells and modules

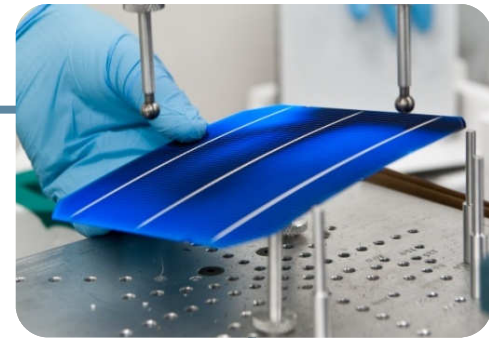
- **High-Efficiency Cells:** 19% in production now; over 20% in laboratory; roadmap to over 22% by 2014
- **High-Power Modules:** Up to 16+% in production; modules ranging from 235-315 watt
- **Buy American Compliant:** Our “Buy American” compliant modules are one of the highest U.S.-content modules on the market
- **Market focus:** Commercial and utility applications in the U.S., Asia and Europe
- **Top-Tier Customers:** Solar City, Martifer, Sunetric, Inman Solar, Orion, AGT, UPS
- **Manufacturing Capacity:** 170 MW in the U.S.; 400 MW in Asia
- **Cost Competitiveness:** Cost competitive with top-tier Asian manufacturers

Headquarters: Norcross, Georgia (suburb of Atlanta)

Incorporated: 2007; Spun-out from Georgia Tech’s UCEP PV Center

Employees: Approximately 200

Investor Backing: Warburg-Pincus, New Enterprise Associates, Goldman Sachs, HIG Ventures, Apex Venture Partners





1985: PV Program
Established at
Georgia Tech



Department of
Energy
provided
funding



1992:
University
Center of
Excellence
Established



**2007: Suniva
Founded**



90 kW rooftop installation on Georgia Tech's Clough Center, Atlanta, Georgia

Deep Roots, Continued Collaboration

- Suniva has access to over \$50M worth of advanced research equipment at UCEP/Georgia Tech
- Suniva benefits from a budget of over \$43M of PV-related research programs funded partly by the U.S. DOE

CUTTING-EDGE RESEARCH MEETS RAPID, PRODUCTION-SCALE DEVELOPMENT



Dr. Ajeet Rohatgi
Suniva Founder & CTO

- Georgia Tech Regents' Professor
- Georgia Power Distinguished Chair
- 15 world-record cells
- 42 patent families
- 400+ publications
- Westinghouse Engineering Achievement Award
- IEEE Cherry Award, 2003
- NREL Rappaport Award, 2003
- 5 Most Influential in Renewable Energy, 2008
- Named "Champion of PV", 2010

**Georgia
Tech**



Research

Development



STRONG & GROWING IP PORTFOLIO

Over 50 patent families

Novel cell architectures (12 families), materials development (11 families), along with high efficiency cell designs linked together with process technologies (27 families)

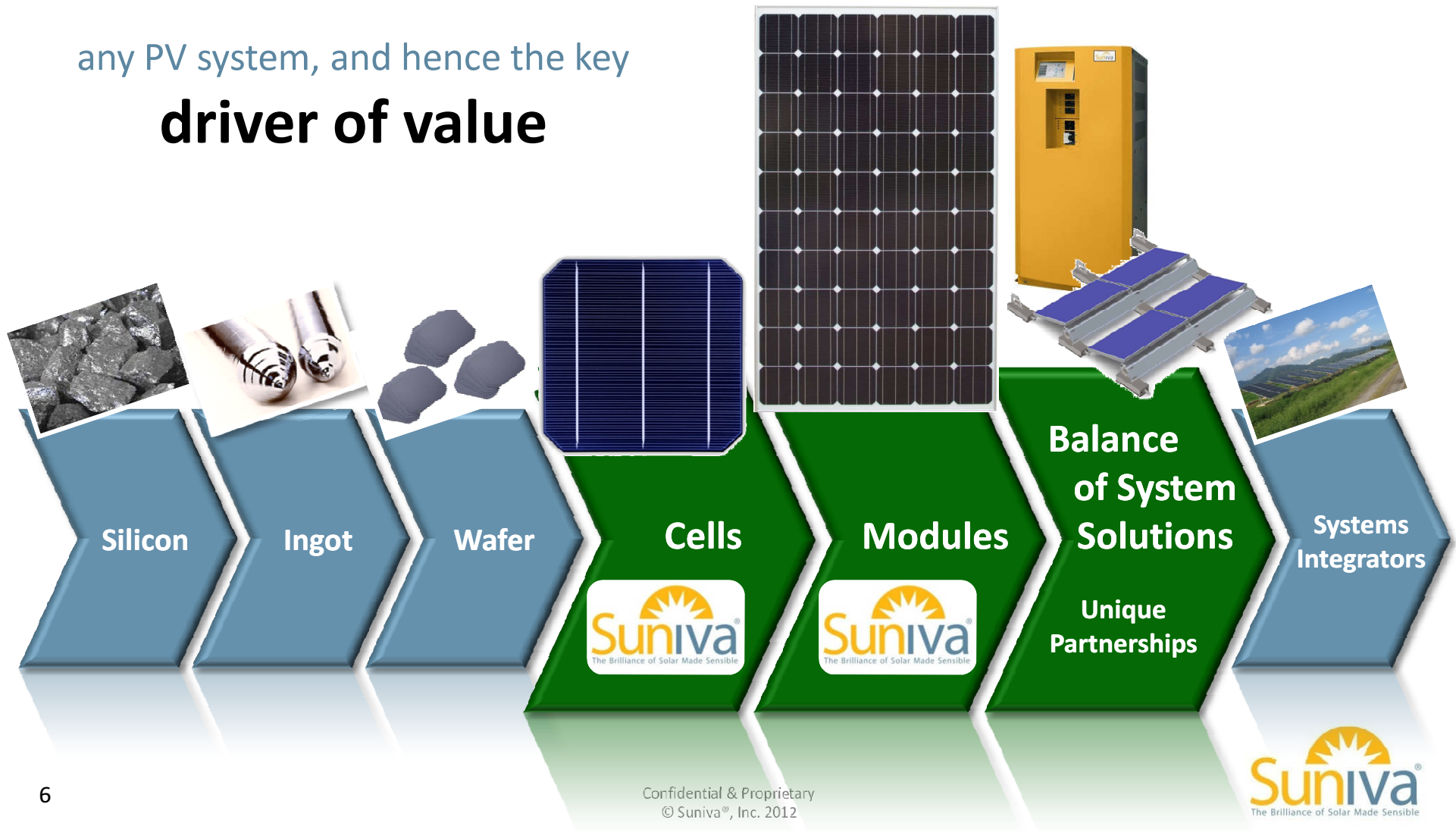
Patents include novel cell architectures, material development, cell designs and process technologies for high-efficiency cells on thin wafers

Key Suniva IP for advancing and protecting 20%+ cell using ion implantation

- Rapid thermal processing for high performance cells
- Novel boron belt diffusion for thin and n-base cells
- **Amorphous Si / crystalline Si heterojunctions for effective surface passivation**
- Novel dielectrics for next generation high-efficiency thin cells
- **Lowest conversion cost process and device structure on n-type substrates**
- Local back contacts cell technology to enhance efficiency
- Novel rear silver point contacts “STAR” for low-cost 20% cells
- Novel process technology “STAR” for simultaneous diffusion, oxidation and AR coating
- Selective Emitter cells using novel Ion Implantation approach
- Unique N-type structures which preserve high lifetimes and eliminate light induced degradation (LID)
- Key know-how on critical processes including wet chemistry, texturing, nitride deposition, ion implantation, oxide passivation metallization, pastes, and screen printing a
- In-house Module fabrication , integration and reliability testing expertise
- Novel approaches for cell-module integration

SUNIVA® INNOVATION IN THE VALUE CHAIN

The **solar cell** is the “DNA” of any PV system, and hence the key **driver of value**



SUNIVA PRODUCT PORTFOLIO

Mono

Optimus Series

Contains ARTisun Select Cell Technology

*High-Efficiency
ARTisun Select Cells*



60-Cell
OPT260 – 16.1%



72-Cell
OPT315 – 16.4%

**Also Available with Black
Frame & Black Backsheet**

Multi

MV Series



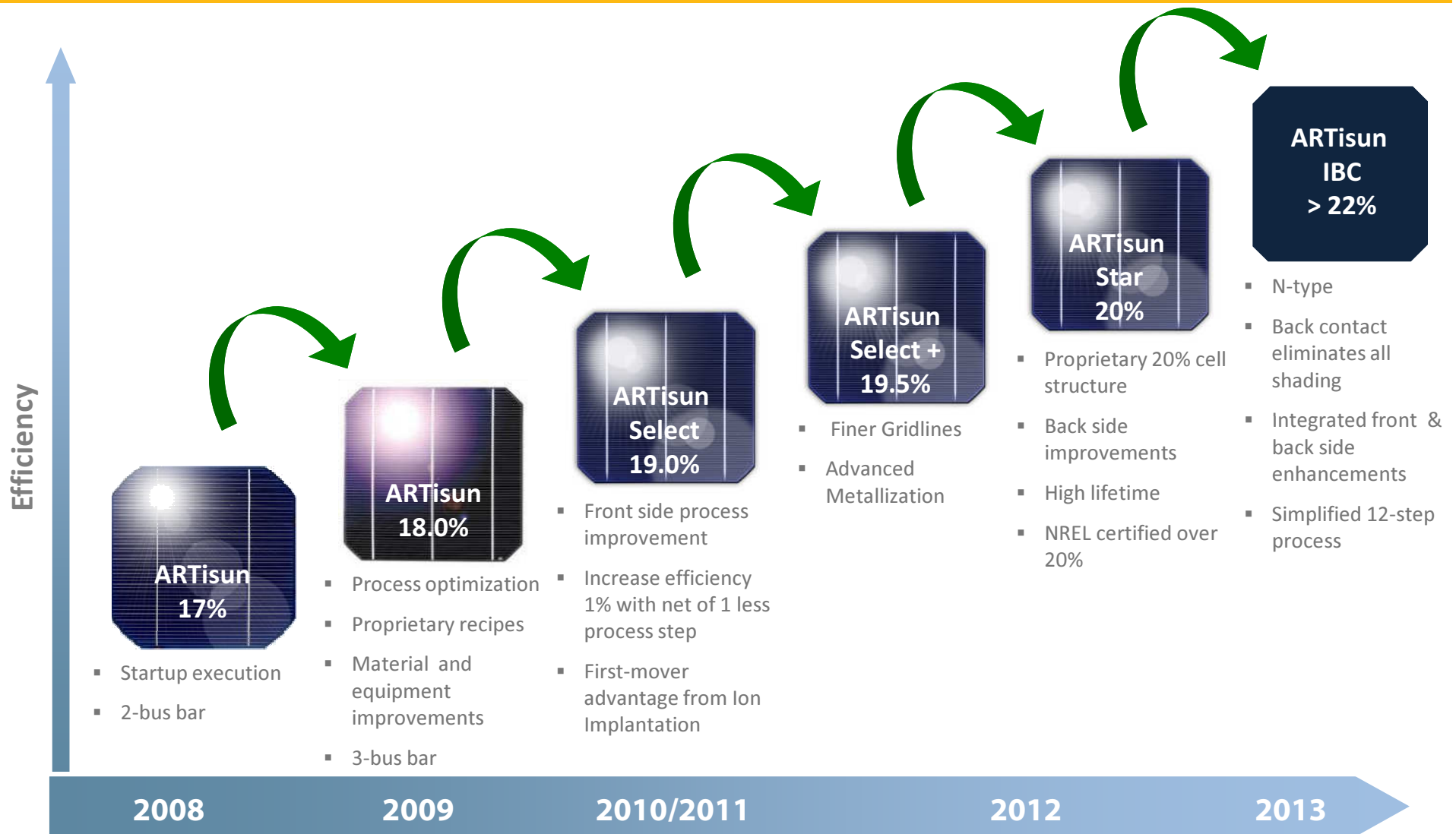
60-Cell
MV Series 240
14.7%



72-Cell
MV Series 290
15%



CELL TECHNOLOGY ROADMAP



BALANCE OF SYSTEMS SOLUTIONS

INVERTERS



MOUNTING



BATTERIES & CHARGE CONTROLLER



Suniva partners with the best-in-class inverter, mounting and battery storage/charge controller companies to streamline the balance of system selection process.

- Improve overall PV system performance
- Maximize kilowatt hours produced
- Reduce cost of PV ownership
- ARRA compliant

EXPERIENCED LEADERSHIP TEAM

Suniva's balanced management team includes accomplished corporate leaders with deep PV expertise and proven manufacturing experience



John Baumstark – Chairman & CEO

Over 25 years in early- and late-stage private and public companies. Multiple billions in investor returns, including one IPO and two company sales.

Experience: HIG Ventures, IBM, DWL, Ariba, Tradex, Infinium, MSA



Bryan Ashley – Chief Marketing & Sales Officer

Over 30 years experience: IBM, DWL, Infinium, Talus/Manugistics, Ariba, Witness Systems, DSI Inc.

Deep international markets strategy experience on 6 continents in developed and undeveloped countries



Dr. Ajeet Rohatgi – Founder & CTO

Globally recognized leader in PV research. Over 30 years in PV research; 11 patents; 2003 Cherry Award; Founder of UCEP

Experience: Georgia Tech, UCEP, Westinghouse



Dr. Stephen Shea – Chief Engineering Officer

Nearly 40 years PV R&D and large-scale manufacturing experience: Xerox PARC, BP Solar, Solarex, Institute of Energy Conversion (U. Delaware)

4 years PV manufacturing consulting with clients in North America, Europe, Asia and Africa



Jim Modak – CFO

Over 30 years in high-growth businesses, including three IPOs, four company sales and over 50 buy-side M&A transactions

Experience: DataPath, DWL, Tradex, KPMG Peat Marwick



Bruce McPherson – VP of R&D

Over 30 years experience: Tradex, DWL, SAP, P&G and American Standard

Strong background in producing predictable outcomes from introducing new technologies which balance risk and value creation. Co-inventor on a number of Suniva patent applications

EXPERIENCED LEADERSHIP TEAM, CONTINUED



Greg Mihalik – VP of Operations

Over 15 years solar experience: SunPower, SolarWorld, Shell Solar, Siemens Solar

Ran SunPower's global module operations over 800MW



Dr. Daniel Meier – Chief Scientist

Over 30 years experience: NREL, Solar Power Industries, EBARA Solar, Westinghouse

11 U.S. patents granted, over 80 technical publications. Winner of three Westinghouse Signature Awards for Excellence in Engineering



Marc Rogovin – VP of Corporate Services

Over 25 years of executive positions with NYSE listed companies

Over 3 billion in CAP EX project management responsibilities



Melvin Poi – VP Sales, Asia Pacific

Over 30 years experience: IBM, DWL, Infinium, Talus/Manugistics, Ariba, Witness Systems, DSI Inc.

Deep international markets strategy experience on 6 continents in developed and undeveloped countries



Matt Card – VP Sales, Americas

Over 20 years of marketing, business development, sales and product management experience

Strong background in maintaining key customer relationships



Paul Schneider – Plant Manager

Nearly 25 years manufacturing experience with roles in operations management, engineering management, technology transfer, and capacity expansion

Over 13 years of solar experience with Suniva and BP Solar (Solarex)



Tom Corman – Director of Process Engineering

Nearly 25 years experience in manufacturing

12 years Solarex, BP Solar

8 years at Bayer



Ken Wang – General Manager, China

Nearly 20 years experience at world-leading international companies.

Experience includes six years at Motorola and Elcoteq for over 11 years

SUNIVA'S

STATE-OF-THE-ART 10,000 M² SOLAR CELL PLANT & MODULE LAB/ASSEMBLY FACILITY NORCROSS, GEORGIA, USA

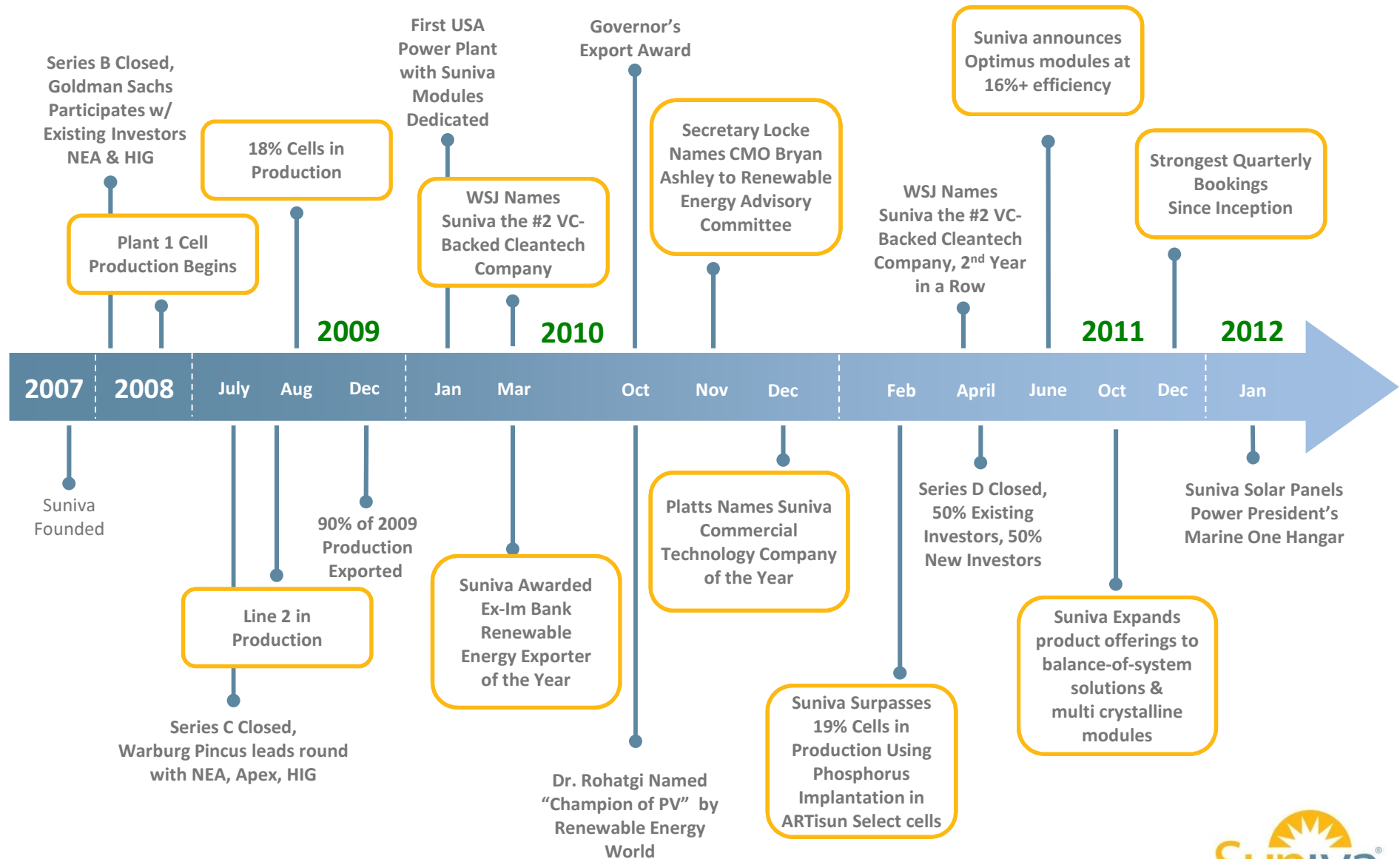
- First production line operational October 2008 – less than 4 months from commencement of construction to production
- Norcross capacity: 170 MW

ADDITIONAL CAPACITY

- Flexible cell and module capacity of 400 MW+
- Achieve greater aggregation benefits for materials and equipment
- Drive **competition** and **best practices** to reduce costs and maintain highest quality



SUNIVA EXECUTES



STRONG TIES TO U.S. GOVERNMENT LEADERS



Suniva executives at HQ with U.S. Secretary of Commerce (now Ambassador to China), Gary Locke



CMO Bryan Ashley with President Obama, Ambassador Locke, and Ambassador Roemer in Mumbai, India



CEO, John Baumstark Introduces President Obama at Ex-Im Bank Annual Meeting



Suniva executives at HQ with Under Secretary Francisco Sanchez

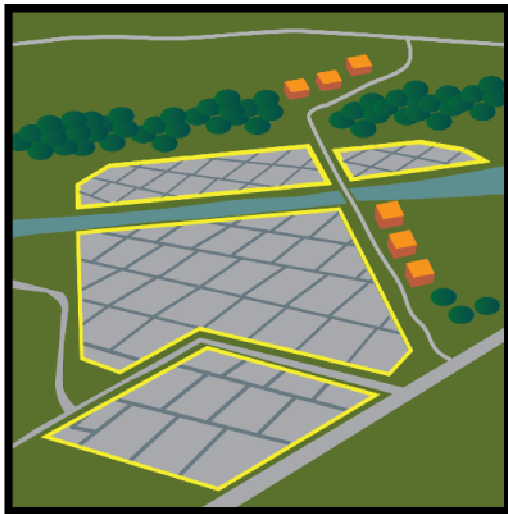


Suniva Executives at HQ with First Lady & Georgia Governor Nathan Deal

THE VALUE OF HIGH EFFICIENCY

Case Study: 6 MW Solar Farm

Thin Film



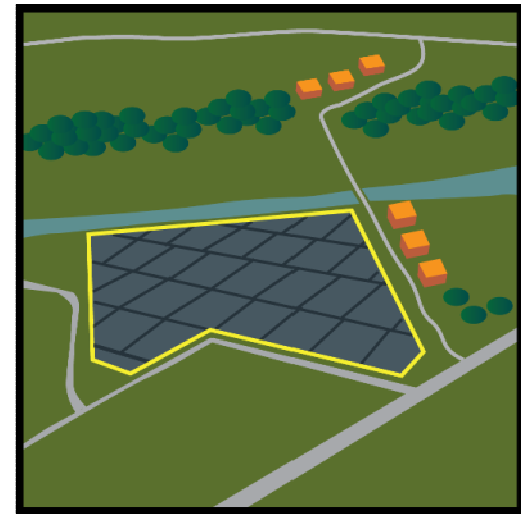
41 Acres
10% efficiency
modules

Standard Multi



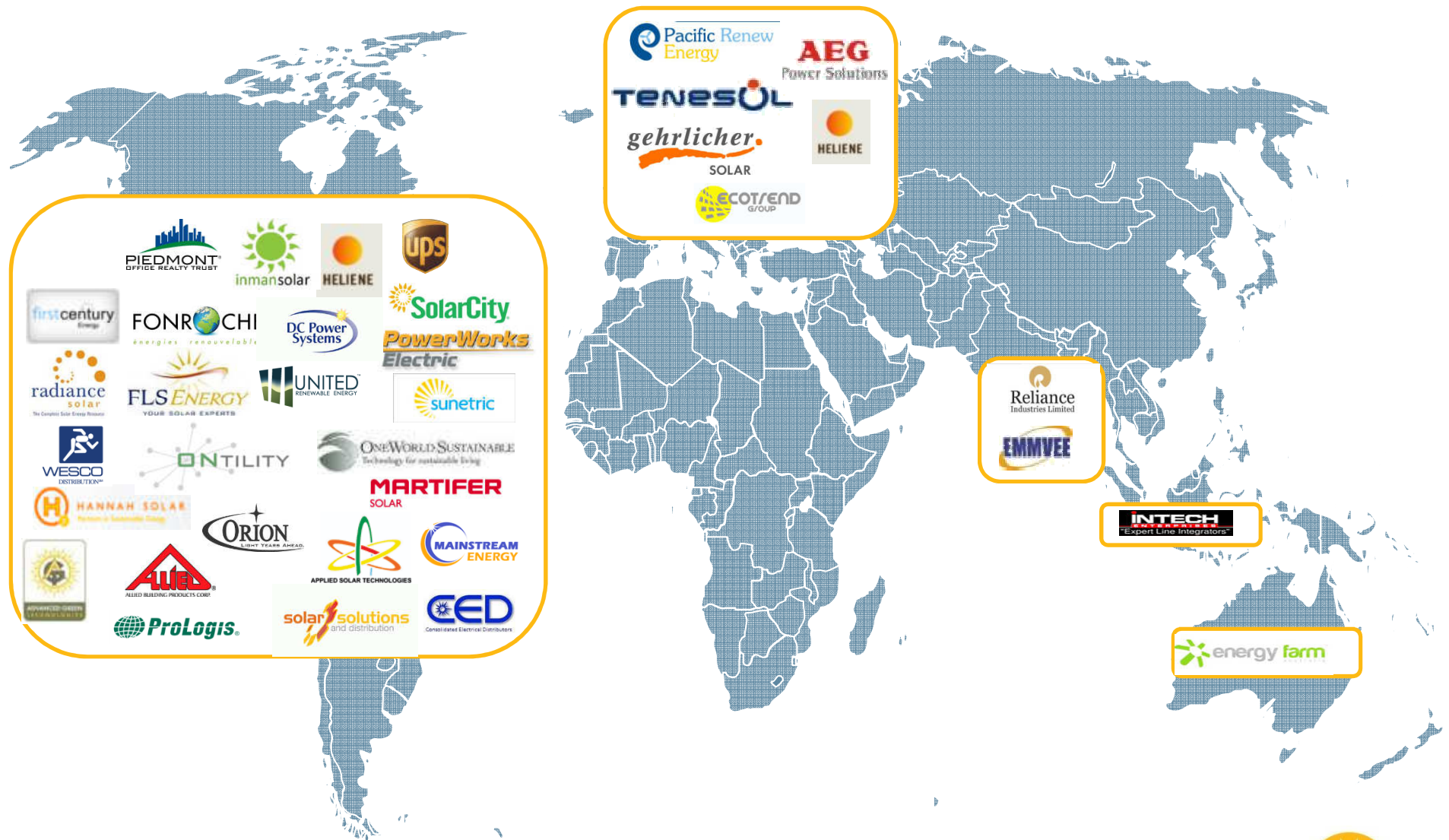
32 Acres
13% efficiency
modules

Suniva®



≈22 Acres
16% efficiency
modules

GLOBAL CUSTOMER BASE



USA GETS POWERED BY SUNIVA

550 kW ballasted system on brownfield in Canton, North Carolina, USA



USA GETS POWERED BY SUNIVA

1.3 MW rooftop installation in Newark, New Jersey



SUNIVA POWERS MARINE ONE HANGAR

Quantico, Virginia



USA GETS POWERED BY SUNIVA

*1 MW grid-connected ground mount installation,
Georgia's largest privately owned PV system
Blairsville, Georgia*





USA GETS POWERED BY SUNIVA

200 kW ground mount installation at Pippin Pecan Farm, Georgia





USA GETS POWERED BY SUNIVA

*90 kW rooftop installation on Georgia Tech's Clough Center
Atlanta, Georgia*

FIRST ENERGY-COST-NEUTRAL PARK IN THE USA GETS POWERED BY SUNIVA

*22kW at D.H. Stanton Park, part of **The Atlanta Beltline**,
a 22-mile long live-work-play transit corridor*

Atlanta, Georgia, USA





ASIA GETS POWERED BY SUNIVA

*3kW shown here make up two base transmission stations
Kalyanpurbasti, Samastipur, Bihar, India*

Over 2,000 cell towers across India are Powered by Suniva™

ASIA GETS POWERED BY SUNIVA

*1+ MW rooftop solar project on Thyagaraj Stadium
New Delhi, India*



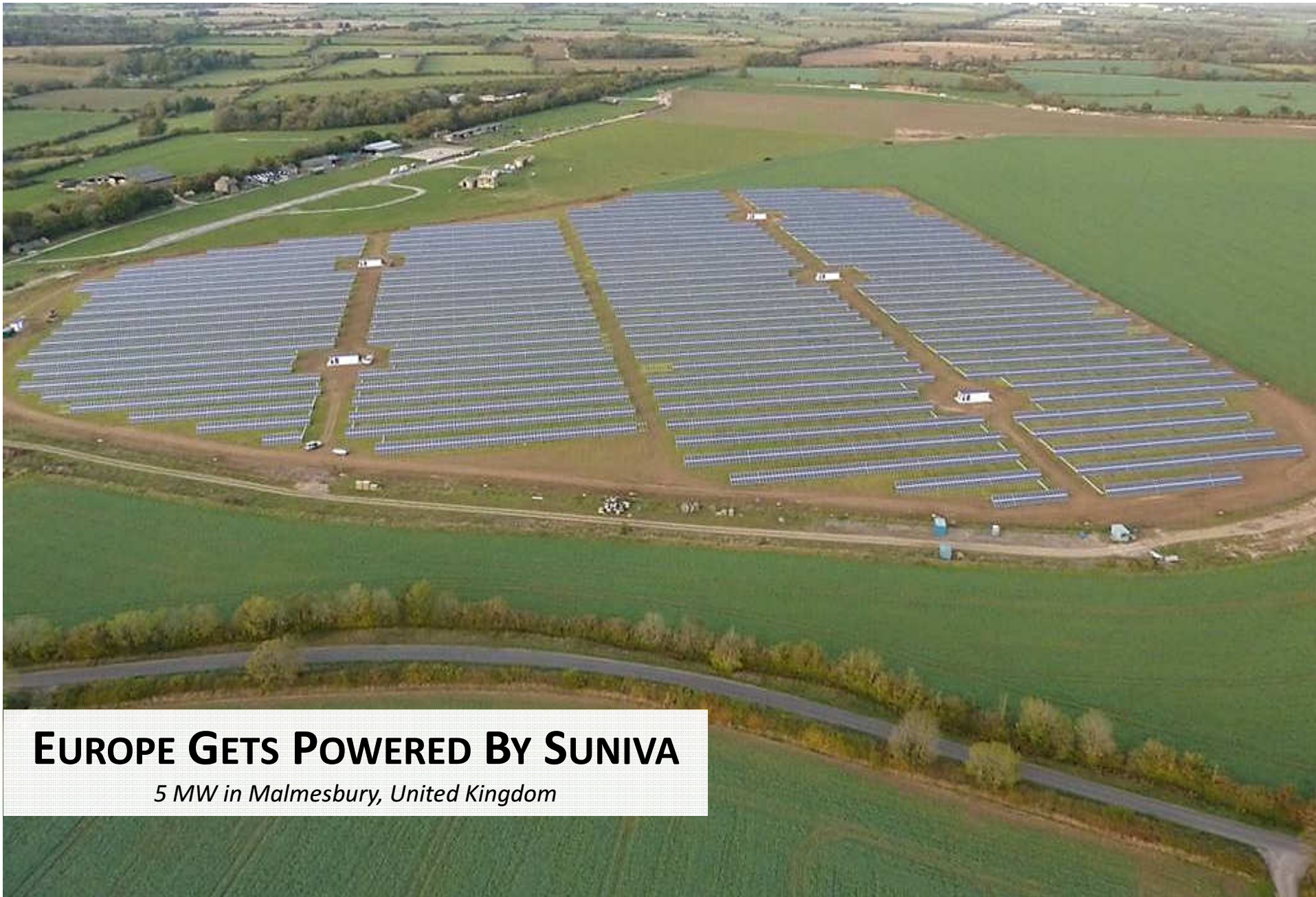


ASIA GETS POWERED BY SUNIVA

*First grid-connected solar project in India, 1.25 MW
West Bengal, India (top)*

*Largest utility-owned, grid-connected solar project
in India at time of installation, 3 MW
Karnataka, India (bottom)*





EUROPE GETS POWERED BY SUNIVA

5 MW in Malmesbury, United Kingdom

EUROPE GETS POWERED BY SUNIVA

100 kW groundmount in Greece



EUROPE GETS POWERED BY SUNIVA

100 kW rooftop in Athens, Greece





EUROPE GETS POWERED BY SUNIVA

5 MW ground mount installation in Lecce, Italy

SUNIVA LIGHTS UP TIMES SQUARE

New York City, New York, USA





APPENDIX

RELATIONSHIP WITH EXPORT-IMPORT BANK OF THE UNITED STATES

- Suniva benefits from close relationships with senior officials at Export-Import Bank of the U.S. (Ex-Im Bank)
- Suniva has several Ex-Im Bank financed projects
 - Our Buy American-compliant modules contain 80% U.S. content, one of the highest U.S.-content modules available
- Suniva was the first company to use Ex-Im Bank's Solar Express program and is the only solar company to use all three product offerings
 - Working capital lines
 - Project financing
 - Credit Insurance facility
- Suniva received Ex-Im Bank's Renewable Energy Exporter of the Year Award in 2009



"Suniva is a company that's on the cutting edge, and I think they've got the match between energy efficiency and economy of scale that makes their products very much in demand..."

- Fred Hochberg
Chairman, Ex-Im Bank
March 2011